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EXAMINER

LU, C CAIXIA

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

1. Claims 1-5 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over von Haken Spence et al. (US 6,355,744) in view of Gao et al. (CA 2,261,518).

The instant claims are directed to a process for making phosphinimine ligand containing metal-organic compound by contacting the HA adduct of a phosphinimine compound with a metal-organic reagent in the presence of at least 2 equivalents of a base.

von Haken Spence teaches the preparation of phosphinimine ligand containing titanocene by contacting tri-*t*-butylphosphinimine, cyclopentadienyltitaniumtrichloride in the presence of triethylamine with the mole ratio of 1:1:10 (col. 8, lines 20-32, Synthesis 3).

It is noted that the phosphinimine is used directly in von Haken Spence rather than the salt form of the aminophosphonium halides. However, neutralizing the aminophosphonium halide with a base to provide the phosphinimine ligand compound is conventional practice since the salt form is more stable and readily available and such is demonstrated in Gao, see page 3, the last paragraph. When aminophosphonium halide is used, at least two equivalents of base should be used, the first equivalent of base is for releasing phosphinimine from aminophosphonium halide and second equivalent of base is for removing H from Y=N-H to provide Y=N⁻ to react with the metal center and form the phosphinimine ligand in the metal-organic compound. Since triethylamine is a stronger base than Y=N-H, one would also have expected that the most common amine base, triethylamine, to react with aminophosphonium halide to

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form phosphinimine and $(\text{Et}_3\text{NH})^+\text{Cl}^-$ and further deprotonates the phosphinimine to provide $\text{Y}=\text{N}^-$ to react with the metal-organic reagent of formula 3 to produce the metal-organic compound.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Gao's aminophosphonium halide to von Haken Spence's phosphinimine ligand containing metal-organic compound preparation process since phosphinimimium halide is more stable and readily available and in the absence of any showing criticality and unexpected results.

Allowable Subject Matter

2. Claims 6-10 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

von Haken Spence does not teach or reasonably suggest the limitation of the instant claims. For example, von Haken Spence does not that inorganic base such as NaOH and K_2CO_3 to be suitable for the preparation of phosphinimine ligand containing compound. On the contrary, that base should be avoided since those bases will react with aminophosphonium halide to form H_2O by-product which is likely to interfere the formation of phosphinimine ligand containing compound.

It is noted that von Haken Spence does not teach or reasonably suggest the preparation of a metal-organic compound by contacting phosphinimine compound and titanocene in the presence of alkyl lithium. In stead, von Haken Spence demonstrate preparation of the lithium salt of phosphinimine and then react the lithium salt of

phosphinimine with the titanocene to provide phosphinimine ligand containing titanocene as shown in Syntheses 2 and 4 of col. 8.

In view of the foregoing, the instant claims are deemed to be novel.

Response to Arguments

3. Applicant's arguments filed December 5, 2008 have been fully considered, and rejections under 35 USC 112 are withdrawn in view of the amendment. However, the rejections under 35 USC 103 are rephrased and maintained as shown above.

As indicated above, von Haken Spence does not teach or reasonably suggest the preparation of a metal-organic compound by contacting phosphinimine compound and titanocene in the presence of alkyl lithium; instead, von Haken Spence demonstrate preparation of the lithium salt of phosphinimine and then react the lithium salt of phosphinimine with the titanocene to provide phosphinimine ligand containing titanocene as shown in Syntheses 2 and 4 of col. 8. However, von Haken Spence does expressly disclose the preparation of cyclopentadienyltitanium(tri-t-butylphosphinimine) dichloride in by contacting tri-t-butylphosphinimine, cyclopentadienyltitaniumtrichloride in the presence of triethylamine with the mole ratio of 1:1:10. Therefore, the above maintained rejections under 35 U.S.C. 103(a) are deemed proper.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Applicants are reminded that the existence of potential obvious double patenting rejections over the claims of 10/566,979 (allowed by the examiner) and 10/566,839. A future obvious double patenting rejection will be precluded. The rejection is not made this time because the outstanding rejection is still believed to be valid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached on 9:00 a.m. to 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Caixia Lu/
Primary Examiner
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